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Change of Spatial Layout and Space Function of Simple Residential House T.36
Case study: Block L Bumi Parahyangan Kencana, Cangkuang District, Bandung Regency, Indonesia

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Abstract: Simple residential house type 36 is the smallest residential house recommended by the Indonesian government to meet the needs of residential houses. Based on preliminary data research, in Block L Bumi Parahyangan Kencana Housing, the rate of change with the new function of the house without changing the house form (extend) is the largest level of 75.7%. Based on the data, extend level changes is interesting to be studied. Therefore, the researcher chose six houses to be a research sample. The phenomenon that occurs is the core room is inadequate and tends to lead to changes in the house. The change becomes a problem that will be studied. The method used in this research is qualitative descriptive method with direct survey and describing the changes that occur from 6 sample research. The finding in the study case is occupants tend to change on the back and side of the building, without changing the core building. Change tends to increase the service area due to unavailability of service area on the core building.

Keywords: Simple residential house, type 36, spatial change, space function.

1. Introduction

Simple residential house type 36 is the smallest residential house recommended by the government to meet the needs of residential houses. As stated in the Law "The floor area of the house has size of at least 36 square meters". [1] House type 36 is designed to meet basic human needs with two bedrooms, one bathroom and one living room.

Figure 1. Level of change in the research object

Based on preliminary observation, 227 units of houses located in Block L Bumi Parahyangan Kencana Housing consist of two stages of development. In the first step, in 2005, it was built around 135 units. At the second, it was built 92 units in 2012. It has undergone a change of 92.96%, the change consists of total change by destroying the core house (totally reconstructed) by 3.16%, changing by remodeled 14.1%, changing by adding new function without changing the core house form (extend) 75.7%. After the first observation, it is known that the unchanged buildings are unoccupied house and house for rent.

Based on the transformation level data above, the alteration of changes with the new function without changing the house shape (extend) which amounted to 75.7% is interesting to be investigated. Therefore, researcher chose six houses to be research samples.

The phenomenon that occurs is the core room is inadequate and tends to lead to changes in the

residential house. The change becomes a problem that will be studied. The method used in this research is qualitative descriptive method with direct survey and describing the changes that occur from 6 sample research. The research instrument is direct interview to the house owner and photo documentation which was conducted in 2017.

The analysis is done to see the changes that occur in the case study based on the aspects of function and space layout conducted by 6 research samples.

2. Changes of Simple Residential House

Levels of residential house changes that occur is extension and original change form (remodel). [2] Based on survey data and preliminary analysis, it is known that the largest transformation level is extension. Then, the researcher selected six houses with transformation level in extension to become research sample and observed from spatial change.

The housing construction system used by the research object is a conventional production system. This system is implemented centrally, usually called "Centrally Administered of Heteronomous Housing System". In this system, all the process which is from the planning stage, implementation / development to the management is done by government and private. [3] This ready to use spatial residential house is designed to follow minimum standard according to the applicable rules in Indonesia and is built in bulk.

Making house massively makes the house as if a physical object that serves as a residential house, whereas the house must have function of comfort for occupants and can also be an self-existence. [4]

The occupants of the house can make adjustments to their residential house through several alternative ways. One of them is by changing the residential house. [5] In this case, the occupants tend to make changes before being inhabited. It is an effort to accommodate their needs.

One positive impact with the change of residential house is the availability of more space. So with the change of residential house function tends to increase and the layout of the room is likely to be changed for increasing the occupant's satisfaction. [6]

Kellet, et al (1993) stated that the reason of changing the house comes from the mutual relationship between the occupants and their place of residence. [7] The advantages of changing the spatial layout and spatial function according to tipple (1999) is to provide large space to the main household. More space can accommodate more people and increase house owner and occupant satisfaction. [8]

Catanese and Snyder (1986) said that in the traditional term, house is a shelter. However, in the modern world, the house is used to serve the various needs of man and provide space for daily activities such as; cooking, eating, working, enjoying recreation, and sleeping. [9]

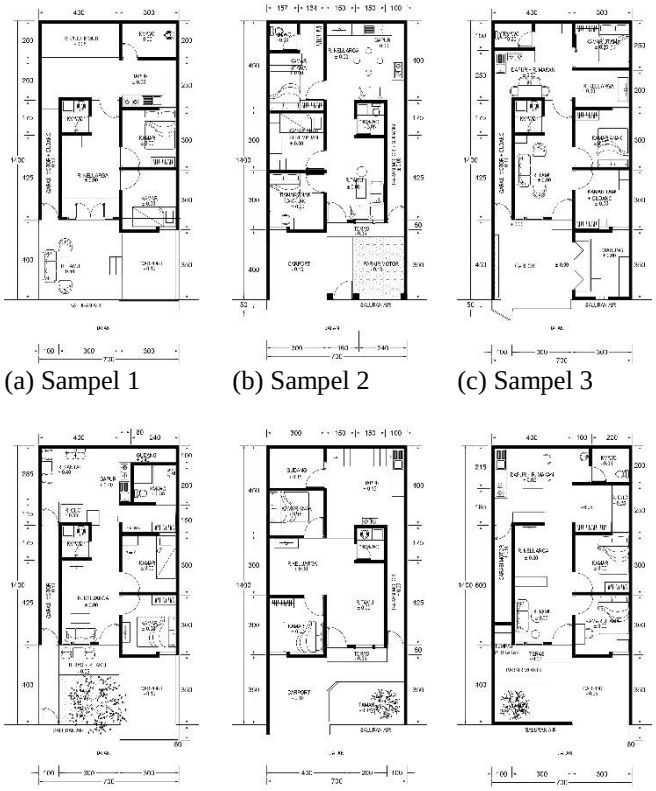
The core house is designed to meet the most basic needs that consist of a bedroom, a multipurpose room and a bathroom. These three spaces are minimal spaces that must be met as minimum standards. Therefore, change is a natural thing, but the direction of regulatory change technically based on predetermined conditions for guaranteeing the quality of the house.

Figure 2. (a) House core plan, (b) Front view, (c) Rear view

The picture above is the core house of the residential unit in Block L Parahyangan Kencana Housing. From the floor plan is known that the width of the lot is 7 meters with a width of 6 meters. Design of this type of coupling consists of several rooms including 2 bedrooms, 1 living room and 1 bathroom.

3. Changes In Space Function And Space Layout

Changes in the largest research object is the widening of the core building with the addition of new functions. The following is a change plan on 6 sample research:



(a) Sampel 1 (b) Sampel 2 (c) Sampel 3

Sampel 4 Sampel 5 Sampel 6

Figure 3. Layout changes (a) sample 1, (b) Sample 2, (c) Sample 3, (d) Sample 4, (e) Sample 5, dan (f) Sample 6

It can be seen from the study sample of the addition of the room that occurred including the addition of kitchen, dining room, bathroom, bedroom, living room, warehouse, garage and laundry room.

1. Addition of kitchen

Kitchen is one room that is added by the occupants. Here are some examples of kitchen addition on the research sample:

(a) Sample 1 (b) Sample 2 (c) Sample 3

(d) Sample 4 (e) Sample 5 (f) Sample 6

Figure 4. Addition of kitchen

The addition of kitchen occurs in the area behind the core building which is the existing of the remaining unbuilt land. The addition of this kitchen occurs in the entire sample of the study. Based on the results of interview with the owner, the biggest factor of house change is the need for kitchen area.

The use of kitchen layout of the whole research sample has similarities in the selection of layout. It is the application of open layout by combining kitchen with other space without using partition.

2. Addition of dining room

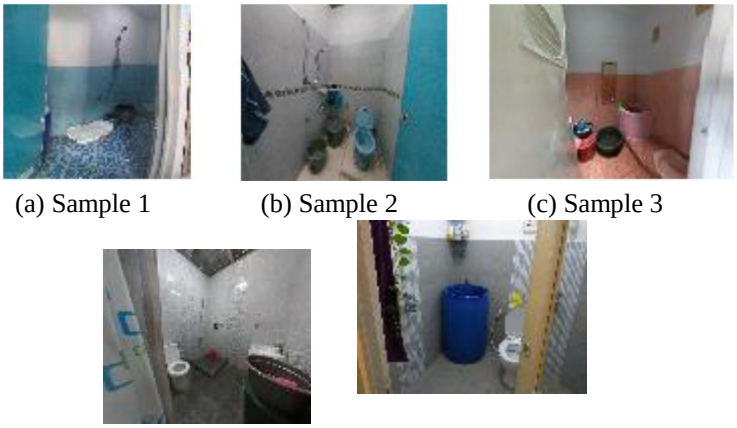
The dining room is a space that occupant tend to add. Here are some examples of dining room added to the research sample:

(a) Sample 2 (b) Sample 3 (c) Sample 4 (c) Sample 6

Figure 5 Addition of dining room

The addition of the dining room occurs in the area behind the core building which is the existing of the remaining unbuilt land. The addition of the dining room occurred in four samples from 6 samples of the study. The similarity of the dining room placement in the study sample is adjacent to the kitchen with an open layout without partition.

3. Addition of bathroom



(a) Sample 1 (b) Sample 2 (c) Sample 3

(c) Sample 4 (d) Sample 6

Figure 6. Addition of Bathroom

The addition of the bathroom occurs in the area behind the core building that is existing from unbuilt land. The addition of bathrooms occurred in 5 samples of the study. The addition of bathroom occurs without changing the existing bathroom except in sample 6. The addition of bathroom due to changes in the existing bathroom to expand the family room.

4. Addition of Bedroom

The addition of bedroom occurs in the back area of the building occurred in 3 research samples. Following are 3 examples of bedroom addition of the study sample:

(a) Sample 2 (b) Sample 3 (c) Sample 5

Figure 7. Addition of Bedroom

The addition of bedroom occurs in the area behind the core building. It is caused by different factors. In sample 2, changes is caused by the needs of the room due to the number of occupants which is consisting of 2 teenage boys. Sample 3 changes is due to the addition of guest rooms because the family often stay there. While in the sample 5 changes because change bedroom into living room.

5. Addition of living room

Living room is a space added by 2 research sample. Here are some 2 samples of living room which are added to research sample:


(a) Sample 2 *(b) Sample 3*

Figure 8. Addition of living room

The addition of the living room in the research sample is motivated by the needs of the occupants of the separation between space zones, especially the public zone and semi-private zone so that occupants use existing living room into the guest room and create a living room in the back area.

6. Addition of Warehouse

Warehouse is a space that is added by the entire sample of research. Here is the addition of warehouse in the sample research:



(a) Sample 1 (b) Sample 2 (c) Sample 3



(d) Sample 4 (e) Sample 5 (f) Sample 6

Figure 9. Addition of Warehouse

The addition of warehouse occurs in all sample research. There are 2 warehouse layout in the research sample that are on the back and side of the core building. 4 units of the research sample utilize side of building as warehouse, while 2 units of building sample utilize back area to make warehouse.

7. Addition of Garage

The garage is a space added by the entire sample of the study. The following are garages that are added in the entire sample of research



(a) Sample 1 (b) Sample 2 (c) Sample 3

(d) Sample 4 (e) Sample 5 (f) Sample 6

Figure 10. Additional of Garage

The addition of garage occurs in all samples of research. The layout ofthe garage consists of 2 i.e. on the side of the building and front area of the building. 4 units in the research sample utilize the side area of the building as garage and 2 units on the building sample utilize the front area as a garage.

8. Changes in the layout of the core building space

Four samples from six study samples did not alter the layout of the core building space. However, two sample studies consisting of one sample change the layout of the bathroom and one sample make a change in the bedroom.

4. Analysis of space function chages

Here are the pattern of changes that residents tend to do:

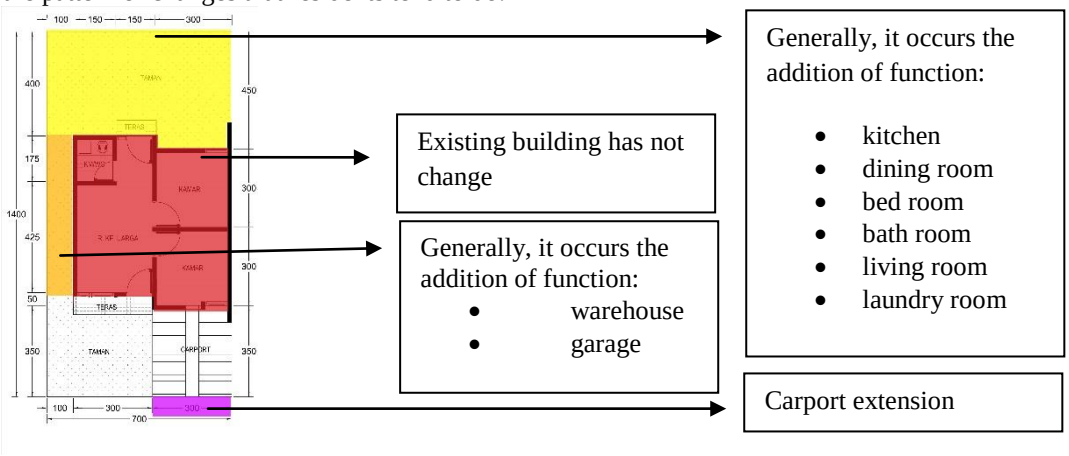


Figure 11. Pattern of changes that tend to be done

From the results of research, changes in general is to maximize the existing land on the side and rear of the house. The function of that space on commonly is added by occupant in the back area including kitchen, dining room, bathroom, bedroom, living room and laundry room. In the side area, the function of space which generally added by the occupants are warehouse and garage. While the core building in general is not changed from space function.

From the results of the research, space layout changing and space functions that occur in the object of research is the occupant's effort in adaptation to their house to meet space needs. According to Kellet's theory, et al (1993), the reason for a person to change comes from the mutual relationship between the occupants and their place of residence. [7]

Space availability in core buildings cannot meet the needs of occupants in the modern world. It is because the needs of occupants in the modern world are used to serve a variety of activities so that houses tend to change.

As stated by Catanese (1986), in the traditional term, house is a shelter, but in the modern world the house is used to serve the various needs of man by providing space for daily activities such as; cooking, eating, working, enjoying recreation, and sleeping. [9]

5. Conclusion

The findings in the case study based on the aspect of function and layout of the room is the occupants tend to change the back and side of the room without changing the core house. Moreover, the core house is used properly as a living room, bedroom and bathroom. Changes occur in the form of additional space including

kitchen, dining room, bathroom, bedroom, living room, laundry room, warehouse, and garage. The change of residential house is caused by the non-fulfillment of the occupants' needs in the modern world.

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